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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,384	10/03/2003	Raymond E. Montgomery	1350.380	3486

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DUNLAP, CODDING & ROGERS P.C.  
PO BOX 16370  
OKLAHOMA CITY, OK 73113

EXAMINER
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SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/678,384

Applicant(s)

MONTGOMERY ET AL

Examiner

Tony G. Soohoo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher, Jr. 558432, in view of Sherwood 3477704.

The Swisher reference discloses a drum, virgin aggregate entry, flights, a countercurrent burner, 1<sup>st</sup> and 2<sup>nd</sup> drum sections, and an intermediate section RAP entry, as discussed and referenced in the instant specification on page 3, paragraph [0013].

The Swisher reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of the drum being constructed in three separable sections. The Swisher reference does not disclose the manner in which the three sections are made together.

The reference to Sherwood teaches two furnace drum sections 1 and 2 which are held together by the use of flanges 12, 14 connected by a chain and pin system 13 with plural pin and apertures which are spaced other than 90 degrees apart, see column 3, lines 41-42. Also, it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

In view of the teaching of Sherwood that a furnace drum may be constructed with multiple sections, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the separate sections of the Swisher device with a flange and pin system to connect the three or more separate sections together such that the device may be more easily assembled and disassembled for repairs.

With regards to the heat shield material and number of sections in the heat shield of claims 8-9, it has been known and in the skill of a person having ordinary skill in the art to construct a single unitary device into multiple sections for ease of manufacture or assembly, also it has been known and in the skill of a person having ordinary skill in the art to choose appropriate materials for use whereby numerous heat shield materials are known with differing costs for the material. Also, it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179. Additionally, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Thus, absent any unexpected results, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the heat shield of the Swisher, Jr reference with a two part heat shield material with differing heat shield materials, in order to provide a more easily manufactured or repairable heat shield and further choose two differing heat shield materials in order to optimize the cost versus performance of the heat shield elements in consideration of the temperature shielding requirement along the heat shield.

***Response to Arguments***

3. Applicant's arguments filed 7-21-2005 have been fully considered but they are not persuasive.

4. Applicant argues that the applicant and assignee of the Swisher base reference has improved upon the base reference by the construction of a third intermediate high wear section. Applicant states that it was found that the intermediate section of the drum would wear down more before the other portions.

5. Applicant alleges that the Sherwood reference simply teaches two drum section secured in end to end relation, thus there is no teaching which would render obvious "to replace a third, intermediate high wear section as set forth in the present claims".

Furthermore applicant alleges that the two part heat shield of claims 8-9 are not obvious in combination. Applicant points out that "it took several years to conceive the invention as set forth above, should overcome an opinion of obvious arrived after being exposed to the combination claimed" (i.e. hindsight reasoning).

6. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

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reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

It is a finding of fact that the basic structure is old and well known, as evidenced by the Swisher reference and the acknowledgement as discussed and referenced in the instant specification on page 3, paragraph [0013].

Therefore the only remaining issue is [an elongated drum] "constructed in three separable section lengthwise of the drum... ..an intermediate section between the first and second sections".

The instant claimed invention is a single unified structure and not separate pieces of unconnected 1<sup>st</sup> sections, 2<sup>nd</sup> sections and intermediate sections, thus it may be also argued that the Swisher reference may have anticipated the final structure defined by the claim whereby the Swisher reference has a drum in which dimensions of the drum may be defined into a 1<sup>st</sup> end, 1<sup>st</sup> section, 2<sup>nd</sup> end, 2<sup>nd</sup> section and intermediate section.

However, in the prosecution and the rejection of the claims made above, although the claims has not particularly pointed out a required connective structure between the sections, The interpretation claims has considered the "constructed in three separable sections" phrase to include the required flanges and joints to connect separate sections together. As such, the Sherwood reference has been cited as evidence of a finding of fact in the art of drum mixer/dryers that the use of the structural elements of flanges, and connectors are old and well known when constructing a drum of multiple parts. Also, it has been held that constructing a formerly integral structure in

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various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179. Motivation of the provision and modification of the drum into separate elements fastened together has been pointed out by the examiner above for the reasons or ease of assembly or disassembly of construction.

7. Applicant's argument with regards to the method of construction appears to be directed to a product-by-process invention. In distinction, it appears that the claimed invention is directed to apparatus claims and *not to a product by process claim*.

Nonetheless with regards to a product by process, a discussion within the MPEP is cited below for referral to issues directed to such claims.

#### 2113 [R-1] Product-by-Process Claims

##### PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.). >The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garner*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)

ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102 /103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBVIOUS DIFFERENCE

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"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) (The claims were directed to a zeolite manufactured by mixing together various inorganic materials in solution and heating the resultant gel to form a crystalline metal silicate essentially free of alkali metal. The prior art described a process of making a zeolite which, after ion exchange to remove alkali metal, appeared to be "essentially free of alkali metal." The court upheld the rejection because the applicant had not come forward with any evidence that the prior art was not "essentially free of alkali metal" and therefore a different and unobvious product.). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) (The prior art disclosed human nerve growth factor (b-NGF) isolated from human placental tissue. The claim was directed to b-NGF produced through genetic engineering techniques. The factor produced seemed to be substantially the same whether isolated from tissue or produced through genetic engineering. While the applicant questioned the purity of the prior art factor, no concrete evidence of an unobvious difference was presented. The Board stated that the dispositive issue is whether the claimed factor exhibits any unexpected properties compared with the factor disclosed by the prior art. The Board further stated that the applicant should have made some comparison between the two factors to establish unexpected properties since the materials appeared to be identical or only slightly different.).

#### THE USE OF 35 U.S.C. 102 /103 REJECTIONS FOR PRODUCT-BY-PROCESS CLAIMS HAS BEEN APPROVED BY THE COURTS

"[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparison. Claim 13 recites that the hose is laid from a reel, the recitation of the manner in which a structure is formed or provided is immaterial in the structural limitation of the flexible pipe and is given no patentable weight to the claim.

#### **Conclusion**

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not



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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


9. The previously cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following disclose assemblies which attach a rotary cylinder kiln to provide a seal or connection to the following connective structure of flow processes: Inoue et al 3923450, Rossi et al 3940239, and Roubal 3068015.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM, Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tony G Soohoo  
Primary Examiner  
Art Unit 1723

**TONY G. SOOHOO**  
**PRIMARY EXAMINER**